

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A discrimination primer for amplifying a nucleic acid that includes a first base at a position suspected of a polymorphism and a second base immediately 3' to the first base, the primer comprising:

a first nucleotide, which is located at the 3' terminus of the primer and contains a base that is complementary to the first base;

a second nucleotide, which is located immediately 5' to the first nucleotide and contains a base that is not complementary to the second base;

a segment of nucleotides, which is located immediately 5' to the second nucleotide and is complementary to a part of the nucleic acid that is immediately 3' to the second base; and

a first binding member of a specific binding pair including the first binding member and a second binding member,

wherein the first binding member is not labeled and covalently bonded to the 5' terminus of the segment, ~~wherein the first binding member is not labeled directly or indirectly~~ and a ~~the~~ second binding member of the binding pair is adapted for affixation on a solid substrate; provided that if the first binding member is an oligonucleotide, it is not complementary to any part of the nucleic acid.

2. (Original) The primer of claim 1, wherein the segment is 5 to 50 nucleotides in length.

3. (Original) The primer of claim 2, wherein the binding member is an oligonucleotide 6 to 50 nucleotides in length and not complementary to any part of the nucleic acid.

4. (Original) The primer of claim 3, wherein the oligonucleotide 10 to 40 nucleotides in length.
5. (Original) The primer of claim 2, wherein the binding member is a peptide.
6. (Original) The primer of claim 2, wherein the segment is 10 to 40 nucleotides in length.
7. (Original) The primer of claim 6, wherein the binding member is an oligonucleotide 6 to 50 nucleotides in length and not complementary to any part of the nucleic acid.
8. (Original) The primer of claim 7, wherein the oligonucleotide is 10 to 40 nucleotides in length.
9. (Original) The primer of claim 6, wherein the binding member is a peptide.
10. (Withdrawn) A method for detecting a polymorphism in a nucleic acid, comprising:
providing a nucleic acid including a first base at a position suspected of a polymorphism and a second base immediately 3' to the first base;
amplifying the nucleic acid with a first primer and a second primer, wherein the first primer includes a first nucleotide, which is located at the 3' terminus and contains a base that is complementary to the first base, a second nucleotide, which is located immediately 5' to the first nucleotide and contains a base that is not complementary to the second base; a segment of nucleotides, which is located immediately 5' to the second nucleotide and is complementary to a part of the nucleic acid that is immediately 3' to the second base; and a first binding member of a specific binding pair covalently bonded to the 5' terminus of the segment;
contacting the amplified nucleic acid with a second binding member of the specific binding pair; and
detecting the amplified nucleic acid that binds to the second binding member.

11. (Withdrawn) The method of claim 10, further comprising amplifying the nucleic acid in the presence of a second first primer, wherein the first nucleotide in one of the two first primers is mutant, and the first nucleotide in the other is wild-type.

12. (Withdrawn) The method of claim 11, wherein the second primer contains a label at the 5' terminus.

13. (Withdrawn) The method of claim 11, wherein the second binding member is immobilized on a solid support.

14. (Withdrawn) The method of claim 13, wherein the second primer contains a label at the 5' terminus.

15. (Withdrawn) The method of claim 13, wherein each of the first binding members of the first primers is, independently, a peptide or an oligonucleotide not complementary to any part of the nucleic acid.

16. (Withdrawn) The method of claim 15, wherein the first binding members of the first primers are different oligonucleotides.

17. (Withdrawn) The method of claim 16, wherein the second primer contains a label at the 5' terminus.

18. (Withdrawn) The method of claim 10, wherein the second primer contains a label at the 5' terminus.

19. (Withdrawn) The method of claim 10, wherein the second binding member is immobilized on a solid support.

20. (Withdrawn) The method of claim 19, wherein the second primer contains a label at the 5' terminus.

21. (Withdrawn) The method of claim 10, wherein the first binding member is an oligonucleotide not complementary to any part of the nucleic acid.

22. (Withdrawn) The method of claim 10, wherein the first binding member is a peptide.

23. (Currently amended) A kit for amplifying a nucleic acid that includes a first base at a position suspected of the polymorphism and a second base immediately 3' to the first base, the kit comprising a first primer and a second primer, wherein the first primer includes a first nucleotide, which is located at the 3' terminus and contains a base that is complementary to the first base, a second nucleotide, which is located immediately 5' to the first nucleotide and contains a base that is not complementary to the second base; a segment of nucleotides, which is located immediately 5' to the second nucleotide and is complementary to a part of the nucleic acid that is immediately 3' to the second base; and a first binding member of a specific binding pair including the first binding member and a second binding member, wherein the first binding member is not labeled and covalently bonded to the 5' terminus of the segment, wherein the first binding member is not labeled directly or indirectly and a the second binding member of the binding pair is adapted for affixation on a solid substrate; provided that if the first binding member is an oligonucleotide, it is not complementary to any part of the nucleic acid.

24. (Original) The kit of claim 23, further comprising a second first primer, wherein the first nucleotide in one of the two first primers is mutant, and the first nucleotide in the other is wild-type.

25. (Original) The kit of claim 24, wherein the second primer contains a label at the 5' terminus.

26. (Original) The kit of claim 24, wherein each of the first binding members of the first primers is, independently, a peptide or an oligonucleotide not complementary to any part of the nucleic acid.

27. (Original) The kit of claim 26, wherein the first binding members of the first primers are different oligonucleotides.

28. (Original) The kit of claim 27, wherein the second primer contains a label at the 5' terminus.

29. (Original) The kit of claim 23, wherein the second primer contains a label at the 5' terminus.

30. (Original) The kit of claim 23, wherein the first binding member is an oligonucleotide not complementary to any part of the nucleic acid.

31. (Original) The kit of claim 23, wherein the first binding member is a peptide.

32. (Previously amended) The kit of claim 25, wherein each of the first binding members of the first primers is, independently, a peptide or an oligonucleotide that is not complementary to any part of the nucleic acid.

33. (Previously amended) The kit of claim 24, wherein the first binding members of the first primers are different oligonucleotides.

34. (Previously amended) The kit of claim 33, wherein the second primer includes a label at the 5' terminus.

35. (Previously amended) The kit of claim 31, wherein the second primer includes a label at the 5' terminus.

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36. (Previously amended) The kit of claim 29, wherein the first binding member is an oligonucleotide, which is not complementary to any part of the nucleic acid.

37. (Cancelled)

REMARKS

This document is filed in reply to the final office action dated May 21, 2003 and the advisory action dated September 10, 2003.

In the final office action, the Examiner rejected all pending claims on various grounds, which were discussed in an interview on July 3, 2003. During the interview, the Examiner suggested deleting the recitation "directly or indirectly" in claims 1 and 23. Applicants have amended the claims accordingly. Applicants have further amended these two claims to more clearly set forth the terms "specific binding pair" and "first binding member." In the advisory office action, the Examiner refused to enter the amendment and contended that the phrase "the first binding member is not labeled" recited in claims 1 and 23 raises (1) new issues that would require further consideration and/or search" and (2) "the issue of new matter." See the advisory action, page 2, lines 4-7.

Applicants have filed herewith a request for continued examination and request that the amendment be entered. Applicants will address the new matter issue below:

The two claims at issue are drawn to a discrimination primer having a first binding member and a kit containing such a primer, respectively. In the response to the final office action mailed on June 18, 2003, Applicants already pointed out that the specification has disclosed two actually prepared discrimination primers, i.e., R11-1-3mis18 (SEQ ID NO:2) and RM11-1-3mis18 (SEQ ID NO:3). Neither of them was labeled. See page 8, lines 5-11 of the specification. It follows that the first binding member, an element of the discrimination primer, was also not labeled. Thus, the specification has provided support for the phrase at issue. Applicants provided the same remarks in the last response. Yet, the Examiner failed to notice them as evidenced by her silence on them. As a result of the Examiner's refusal to enter the amendments, Applicants' arguments regarding to the obviousness rejection were apparently not considered. Applicants are now compelled to file this document, a request for continued examination, and pay a fee of \$375 for filing the RCE and a fee of \$55 for filing a petition for one-month extension of time.

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CONCLUSION

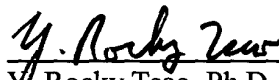
For the above amendments and remarks, as well as the remarks provided in the last response to the final office action, Applicants submit that the grounds for rejection asserted by the Examiner have been overcome, and the claims, as pending, define subject matter that is non-obvious, definite, and in compliance with the written description requirement. On this basis, it is submitted that allowance of this application is proper, and early favorable action is solicited.

Enclosed is a \$55 check for the Petition for Extension of Time fee. Please apply any other charges to deposit account 06-1050.

Respectfully submitted,

Date: _____

9-18-03



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